

10/27/00

10/27/00

HEWLETT-PACKARD COMPANY

Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400

10-30-00

PATENT APPLICATION

ATTORNEY DOCKET NO. 10001746-1

A

IN THE U.S. PATENT AND TRADEMARK OFFICE
Patent Application Transmittal LetterCOMMISSIONER FOR PATENTS
Washington, D.C. 20231

Sir:

Transmitted herewith for filing under 37 CFR 1.53(b) is a(n): ☒ Utility ☐ Design☒ original patent application,
☐ continuation-in-part application

INVENTOR(S): Charles L. Hunter et al.

TITLE: Scalable And Portable Disc Player For Various Optical Disc Sizes

Enclosed are:

- ☒ The Declaration and Power of Attorney. ☐ signed ☒ unsigned or partially signed
☒ 8 sheets of drawings (one set) ☐ Associate Power of Attorney
☐ Form PTO-1449 ☐ Information Disclosure Statement and Form PTO-1449
☐ Priority document(s) ☐ (Other) (fee \$)

CLAIMS AS FILED BY OTHER THAN A SMALL ENTITY				
(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) TOTALS
TOTAL CLAIMS	23 — 20	3	X \$18	\$ 54
INDEPENDENT CLAIMS	3 — 3	0	X \$80	\$ 0
ANY MULTIPLE DEPENDENT CLAIMS	0		\$270	\$ 0
BASIC FEE: Design (\$320.00); Utility (\$710.00)				\$ 710
TOTAL FILING FEE				\$ 764
OTHER FEES				\$
TOTAL CHARGES TO DEPOSIT ACCOUNT				\$ 764

Charge \$ 764 to Deposit Account 08-2025. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16, 1.17, 1.19, 1.20 and 1.21. A duplicate copy of this sheet is enclosed.

"Express Mail" label no. EL442080164US

Date of Deposit 10/27/00

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner, for Patents, Washington, D.C. 20231.

By Terry Flores
Typed Name: Terry Flores

Respectfully submitted,

Charles L. Hunter et al.

By David M. Mason

David M. Mason

Attorney/Agent for Applicant(s)

Reg. No. 42,846

Date: 10/27/00

Telephone No.: (408) 447-4046

**PATENT APPLICATION
HP FILE NO. 10001746**

APPLICATION FOR UNITED STATES LETTERS PATENT

For

SCALABLE AND PORTABLE DISC PLAYER

FOR VARIOUS OPTICAL DISC SIZES

By

Charles L. Hunter and Lawrence N. Taugher

EXPRESS MAIL MAILING LABEL
NUMBER **EL442080164US**
DATE OF DEPOSIT **10/27/00**

I hereby certify that this paper or fee is
being deposited with the United States
Postal Service "EXPRESS MAIL POST
OFFICE TO ADDRESSEE" service
under 37 C.F.R. 1.10 on the date
indicated above and is addressed to:
Assistant Commissioner for Patents,
Washington D.C. 20231.


Signature

Terry Flores

1

2 **SCALABLE AND PORTABLE DISC PLAYER**

3 **FOR VARIOUS OPTICAL DISC SIZES**

4

5 **BACKGROUND OF THE INVENTION**

6 1. FIELD OF THE INVENTION

7 This invention relates generally to an optical disc player and more specifically to a

8 portable disc player/recorder that provides a scalable casing for containing various disc sizes.

9

10 2. BACKGROUND OF THE INVENTION

11 Today, most electronic data, whether it is audio, video or computer, is stored and

12 transferred via an optical disc, such as a compact disc (CD") or a Digital Versatile Disc

13 ("DVD"). With this growing use of the optical disc, many portable disc players for reading these

14 discs have been developed.

15 In general, a portable disc player or recorder may be a peripheral component of a laptop

16 computer or a stand alone portable device that can be carried in the palm of a user's hand. With

17 either type, the player will provide a casing for containing a data transfer device ("DTD") having

18 various conventional mechanisms that allow the player to read and/or write data to and/or from

19 the disc. At a minimum, the DTD will include a conventional optical pickup unit ("OPU")

20 having a sled motor, a spindle motor, and an actuator or voice coil; and general electronics for

21 encoding, decoding and transferring the signal obtained from the optical disc by the OPU to at

22 least one input/output ("I/O") port. The I/O ports are also conventional and may be used to

23 couple the signal to anything from a processor to a set of headphones. In some instances, the

1 DTD may also include a processor for translating the audio, video or computer signal.

2 The casing of each optical disc player will also include a mechanism for inserting the
3 optical disc. One of the most common mechanisms of a laptop for handling the insertion and
4 removal of a CD and/or DVD utilizes a tray. The tray is typically activated by the user and
5 requires the operation of various mechanical parts. Another mechanism allows the user to
6 position the CD and/or DVD into a slot in the front of the drive. With either of these
7 mechanisms, the positioned disc must be picked up at some point in the insertion process and
8 positioned on a motor spindle of the OPU for subsequent reading and writing operations. When
9 ejection of the CD is desired, the same mechanism removes the CD from the motor spindle and
10 ejects it to some position that resides partially outside of the drive so that the operator can grasp
11 the disc.

12 Although some portable hand-held disc players may use the above mechanism to insert
13 and remove a disc, most stand alone disc players utilize the casing. More specifically, the casing
14 in most stand alone disc players, such as a CD player, provides a top portion that is hinged to the
15 bottom portion. Therefore, by using a common latch system, the top portion of the casing can be
16 secured to the bottom portion to contain a disc, and opened to remove or insert a disc. As with
17 the laptop mechanisms, the disc would be secured to the motor spindle of the OPU during the
18 insertion process.

19 Other elements that are typically associated with a portable disc player include a power
20 source or plug, LEDs for displaying operational conditions, at least one operational button and a
21 central processing unit. Obviously, the stand alone disc player may have numerous buttons to
22 accommodate the various operations of the player and may provide a LCD for displaying the
23 progress of the player while operating. Some of the buttons could be used for operations

selected from the group including play, stop, skip, volume, forward, rewind, and pause. General directional arrows may also be employed for menu options provided by a processing unit.

When the above portable disc players are designed to accommodate both 80 and 120 mm discs, the size of the casing is always larger than a 120 mm disc. Consequently, when an 80 mm disc is positioned within a disc player that can accommodate both 80 and 120 mm discs, the size of the disc player will not change. Since a 120 mm CD or DVD provides nearly twice the surface area as a 80 mm CD, a player that only accommodates an 80 mm disc will have a much smaller casing and therefore will be much easier to carry and stow. However, such a device can only be used for a 80 mm disc.

Although most audio, video and computer data is sold today on a 120 mm disc, the future of optical disc technology is moving toward the much smaller 80 mm disc. Therefore, it would be desirable to have a single portable disc player that could be structurally scaled to accommodate a representative size of the disc it accepts. The present invention is directed to overcoming the above problems associated with conventional disc drives.

SUMMARY OF THE INVENTION

In general, the present invention provides a disc player, with optional recording capabilities, that can accommodate various optical disc sizes. The case for the disc player includes a top and bottom shell and a scalable mechanism. The shells pivotally couple together and interact to form a cavity for containing the disc. The scalable mechanism provides a set of wings and sleeves that pivot and slide, respectively, while being coupled to the top and bottom shells, to change the structural size of the disc player. The disc player casing also includes an data transfer device ("DTD") that attaches to the bottom shell for transferring data from the disc to a desired I/O port.

In one embodiment, the present invention provides a portable disc player casing that includes a top and bottom shell movably attached to allow the insertion and removal of the disc within a cavity of the casing; an data transfer device ("DTD") attached to the bottom shell for obtaining and transferring data; and a mechanism for accommodating the size of the disc and changing the structural size of the player.

In still another embodiment, a process is provided for reading/writing data to/from an optical disc. The process includes the steps of: opening a disc player casing to expose a cavity and a data transfer device ("DTD"); adjusting the size of the casing to accommodate the size of the disc, securing the disc to the DTD; closing the casing to contain the disc within the cavity; and implementing the DTD to transfer data from the disc to an I/O port, via the DTD.

BRIEF DESCRIPTION OF THE DRAWINGS

Other aspects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the drawings, in which:

Figure 1 illustrates an isometric view of an optical disc player while containing a 120mm disc in accordance with the invention;

Figure 2 illustrates an isometric view of the disc player of Figure 1 while containing a 80mm CD;

Figure 3 illustrates the disc player of Figure 1 while containing a 120mm disc;

Figure 4 illustrates the disc player of Figure 2 while containing a 80mm CD;

Figure 5 illustrates an isometric view of the top shell of Figures 1-4;

Figure 6 illustrates the disc player of Figure 3 with the top shell removed;

Figure 7 illustrates the disc player of Figure 4 with the top shell removed; and

Figure 8 illustrates an isometric view of the optical pickup unit of Figures 1-4.

While the invention is susceptible to various modifications and alternative forms, specific embodiments thereof have been shown by way of example in the drawings and are herein described in detail. It should be understood, however, that the description herein of specific embodiments is not intended to limit the invention to the particular forms disclosed, but on the contrary, the intention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

DETAILED DESCRIPTION OF THE INVENTION

Illustrative embodiments of the invention are described below. In the interest of clarity, not all features of an actual implementation are described in this specification. It will of course be appreciated that in the development of any such actual embodiment, numerous implementation-specific decisions must be made to achieve the developers' specific goals, such as compliance with system-related and business-related constraints, which will vary from one implementation to another. Moreover, it will be appreciated that such a development effort might be complex and time-consuming, but would nevertheless be a routine undertaking for those of ordinary skill in the art having the benefit of this disclosure.

Turning now to the drawings, Figures 1 and 2 illustrate the inventive optical disc player 10 in an open position providing a first and second structural configuration for containing a 120mm CD or DVD 30 and a 80mm CD 32, respectively. The disc player 10 includes a top and bottom shell or cover 12 and 22, a top and bottom sleeve or tray 14 and 24, a top and bottom set or pair of wings 16, 18 and 26, 28, and a data transfer device ("DTD") 40. As will be discussed in more detail, the top and bottom set of wings 16, 18 and 26, 28 include a respective flange 16A, 18A and 26A and 28A, and the top and bottom sleeves 14 and 24 provide a respective flange 14A and 24A. The DTD 40 connects to the bottom shell 22 to receive the CD or DVD within the casing of the disc player 10 and provides conventional mechanisms as described in the background of the invention for obtaining and/or providing data to and/or from a CD or DVD being contained by the disc player while operating.

In a preferred embodiment, the DTD 40 can be connected to a compatible processing unit (not shown) by a known data cable and conventional I/O ports. The I/O port(s) (not shown)

1 would be coupled between the DTD 40 and an exterior surface of the disc player 10. As an
2 example, the data cable for connecting the DTD 40 to a processing unit may be selected from the
3 group including serial, parallel, USB and the like. In addition, the top shell 14 would include a
4 conventional LCD display and operational buttons (neither shown) for controlling the operation
5 of the disc player. The operational buttons could be used for operations selected from the group
6 including play, stop, skip, volume, forward, rewind, and pause. General directional arrows may
7 also be employed for menu options. In an alternative embodiment, the skilled artisan should
8 appreciate that the processing unit could be incorporated as a part of the DTD 40 to assist with
9 operational functions of the disc player and associated buttons and LCD.

10 Figures 3 and 4 illustrate the same disc player 10 of Figures 1 and 2 having the first and
11 second structural position. However, with these illustrations the top shell 12 is in a fully closed
12 position to secure the disc within the casing cavity. In addition, Figures 3 and 4 show the sleeves
13 14, 24 and wings 16, 18, 26, 28 in a fully expanded position to contain the 120 mm disc and in a
14 fully contracted position to contain the 80 mm optical disc, respectively. In the closed position,
15 flanges 16A and 18A of the top set of wings 16 and 18 interact with flanges 26A and 28A of the
16 bottom set of wings 26 and 28 to enclose and protect the optical disc adjacent a right and left side
17 of the disc player 10. In addition, flanges 14A and 24A of the top and bottom sleeves 14 and 24
18 interact with one another to enclose and protect the CD and DVD adjacent a front portion of the
19 disc player 10. In particular, the sleeves 14 and 24 and wings 16, 18 and 26, 28 expand to
20 closely surround and protect the 120 mm CD or DVD of Figure 1, and the sleeves 14, 24 and
21 wings 16, 18 and 26, 28 contract to closely surround and protect the 80 mm CD of Figure 2.

22 Now that the basic components of the inventive disc player have been described, Figures
23 5-8 will layout the functional elements of each component and how they operate together to

1 receive and contain a CD or DVD for data transfer operations. In particular, Figure 5 illustrates
2 the top shell 12 of the disc player 10 after being removed from the disc player of Figures 1-4.
3 Figures 6 and 7 illustrate the disc player 10 without the top shell 12 of FIG. 5, and Figure 8
4 illustrates a conventional DTD 40 as shown in Figures 1-2 and 6-7.

5 Before the detailed description for each element of the shell is disclosed, it should be
6 noted that the top sleeve 14 and set of wings 16 and 18 provide a mirror image of the bottom
7 sleeve 24 and set of wings 26 and 28 for all functional aspects and structure. Similarly, the top
8 shell 12 provides the same functional aspects as the bottom shell 22 for the purposes of the
9 present invention. Therefore, any element of the top shell that would not be mirrored on the
10 bottom shell, such as additional mounting post for the DTD 40 on the bottom shell, a
11 conventional LCD, operational buttons and accommodating circuitry for the top shell, and
12 conventional latch system components attached to the top and bottom shell, would be
13 contemplated by the present invention to other known concepts associated with disc player.

14 Turning to Figure 5, the top shell 12 includes two mounting posts 50 and a wall 12A. The
15 two mounting posts 50 reside near a back region of the disc player 10 to receive complementing
16 holes 56 of each set of wing 16, 18 and 26, 28 (see Figures 6 and 7). In a preferred embodiment,
17 each hole 56 of a wing surrounds a top portion of a respective post 50 when attached. With this
18 arrangement, the top portion of the post would provide a smaller diameter than the lower portion
19 of the post 56 closest to the surface of the top shell. Therefore, the hole of each wing would rest
20 on a ledge of the respective post while attached. If desired, a securing element (not shown), such
21 as a screw, could also be positioned through the hole 56 and screwed into a reciprocating hole of
22 the post to attach each wing 16, 18, 26, and 28 to each respective mounting post 50.

23 The wall 12A for the top shell 12 can be divided into three sections: a back section 12A'

1 and two side sections 12A''. As illustrated, the back section 12A' extends the entire length of a
2 back region and along a portion of a side region of the disc player 10. Each side section 12A''
3 extends from the back section 12A', adjacent the side region, to a predefined region near the
4 front side of the disc player as illustrated. The distance of the side sections 12'' will allow any
5 portion of a CD being contained by the disc player 10 to extend out of the shell for the wings and
6 sleeve to protect. In general, the difference in height between the wall sections 12A' and 12A''
7 will be greater than the thickness of the CD or DVD and the wings.

8 As noted above, the bottom shell 22 is very similar to the top shell 12. In particular, the
9 bottom shell 22 provides two mounting posts (not shown) adjacent a back region of the shell 10
10 that complements the posts 50 of the top shell 12. However, the wall 22A for the bottom shell
11 22 provides only one height that surrounds the entire parameter of the surface, and the height for
12 the bottom shell wall is greater than the height of the DTD 40 as illustrated in Figure 8.

13 Before the top or bottom wings 16, 18 and 26, 28 can be attached to their respective
14 mounting posts 50, the DTD 40 of Figure 8 should be attached to the bottom shell 22 of the disc
15 player 10 as illustrated in Figures 1 and 2. The DTD 40 can be secured to the bottom shell 22 by
16 a conventional means such as screws, glue or rivets using the securing arms 46A, 46B and 46C
17 illustrated in Figure 8. The DTD 40 also secures a disc 30, 32 within the disc player 10 by a
18 conventional securing platter 48. Besides the securing platter 48, the DTD 40 also includes the
19 various conventional mechanisms (not shown) selected from the group including an optical
20 pickup unit ("OPU") having a motor spindle, a sled motor, an actuator or voice coil, and a power
21 source; and general electronics for encoding, decoding, and transferring the signal obtained from
22 the optical disc to an input/output ("I/O") port, via the OPU. The I/O ports may be connected to a
23 processor and will typically be specifically designed for the type of electronic data that the player

1 will read or write, whether it is audio, video or computer. Therefore, the inventive disc player
2 may also provide the associated I/O ports to accommodate the transfer of audio, video and
3 computer data to the appropriate device for using the same. In addition, the power source could
4 be a conventional battery pack structure integrated within the bottom shell of the disc player, a
5 power cord, or both, using a conventional technique.

6 Other elements that are typically associated with a portable disc player, but are not
7 shown, include LEDs or a LCD for displaying operational conditions, at least one operational
8 button, a speaker, and possibly a processing unit. In a preferred embodiment, the disc player of
9 the present invention would include numerous buttons to accommodate the various operations of
10 the disc player and a LCD for displaying the progress of the player while operating. The LCD
11 and operational buttons could be conventionally mounted on a front region of the disc player 10.
12 The buttons would be used for operations selected from the group including play, stop, skip,
13 volume, forward, rewind, pause, and general directional arrows for menu options provided a
14 processing unit, if used.

15 Once the DTD 40 is secured in place, the top and bottom sleeves 14 and 24 should be
16 positioned between the respective shell 12 and 14 and set of wings 16, 18 and 26, 28. Looking
17 again at Figures 5 and 6, the top sleeve 14 clearly shows a groove 60 adjacent each back corner
18 region of the disc player 10 for receiving a complementing pin 62 on each wing 16, 18 and 26
19 and 28. With the pin 62 positioned within the complementing groove 60 of a wing, the wing can
20 be pivotally attached to the shell by the mounting posts 50 as described above. Once each set of
21 wings is attached to their respective posts 50, a user can pull and push on the top and bottom
22 sleeve 14, 24 to create an area large enough for receiving and containing a CD or DVD having a
23 diameter of various sizes.

1 In other words, the inventive disc player 10 can provide a first dimensional size when
2 carrying a 120 mm optical disc as illustrated in Figures 1, 3 and 5 and a second dimensional size
3 when carrying a 80mm optical disc as illustrated in Figures 2, 4 and 6. In particular, the disc
4 player 10 provides a structural size that is slightly bigger than the dimensions of the CD or DVD
5 it contains. Therefore, the inventive disc player can be scaled to be smaller then conventional
6 disc players for carrying an 80 mm CD. A skilled artisan should appreciate that the inventive
7 disc player is not limited to the dimensions of a 80mm and 120mm optical disc, and therefore
8 could be modified to accommodate optical discs that may be smaller, larger and thicker then a
9 conventional CD or DVD.

10 In a preferred embodiment, the top shell 12 is at least partially transparent or translucent
11 so that the user can read labels or other identification on a contained CD or DVD. In addition,
12 the shells 12 and 22, the sleeves 14 and 24, and the set of wings 16, 18 and 26, 28 are preferably
13 made from a material such as plastic. A conventional hinge system couples the top shell to the
14 bottom shell using the back wall sections of disc player. In addition, a common latch system is
15 also used to allow the front region of the top shell to secure to the front region of the bottom
16 shell. Therefore, a top shell can be opened to remove or insert a disc (see FIGs. 1 and 2) and
17 closed to secure an optical disc within the disc player (see FIGs 3 and 4).

18 Now that the structural components of the present invention have been described and
19 their function, the process for using the same will follow. Generally, the process includes the
20 steps of: opening a disc player to expose a cavity and an optical pickup mechanism ("DTD");
21 adjusting the size of the disc player for securing an optical disc to the DTD; closing the disc
22 player to contain the disc within the cavity; and implementing the DTD to transfer data from the
23 disc to an output terminal. As mentioned above, the I/O port could be used to couple speaks to

the disc player to hear audio data, or to couple a video display to the disc player to view video data, or to couple a personal computer to the disc player to view video and computer data or listen to audio data contained on a disc.

With the inventive disc player, the process step for adjusting the disc player size involves a user slidably moving a sleeve 14, 18 or pivotally moving one or both of the wings on the top and bottom shell of the disc player until the size of the optical disc to be inserted into the disc player will fit into the cavity of the disc player and the protective area created by the wings and sleeves. Consequently, while the inventive disc player is adjusted to accommodate a 120mm or a 80mm CD, the overall size is scaled as well.

In summary, the present invention provides a protective disc player for an optical disc.

The disc player is scalable to accommodate 120mm CDs and DVDs or 80mm CDs. When used for a 80mm CD, the size of the disc player is small enough to be placed in a typical shirt pocket.

A disc may remain in the disc player during transport, and for operational purposes, the disc player can be coupled to a computer, speakers, and a video screen, such as a TV or CRT, when desired. Preferably, the disc player is at least partially transparent or translucent, so that labels or other identification on a data storage medium can be read when a data storage medium is present in the disc player.

1 What is claimed:

2

3 1. A scalable optical disc player comprising:

4 a top and bottom cover, each cover having a pair of mounting posts adjacent a back side
5 of the player;

6 a top and bottom set of wings, each wing pivotally couples to the respective mounting
7 post and including a guide pin; and

8 a top and bottom sleeve movably coupled between the respective cover and pair of wings,
9 each sleeve includes a pair of guide slots being positioned to receive each respective
10 guide pin of each wing.

11

12 2. The disc player of claim 1, further including a data transfer device ("DTD") attached to a
13 surface of the bottom cover.

14

15 3. The disc player of claim 2, further including data connectors coupled between an exterior
16 surface of the bottom cover and the DTD for transferring data from the disc to the connectors,
17 via the DTD.

18

19 4. The disc player of claim 3, wherein the DTD can read and/or write data to/from the disc.

20

21 5. The disc player of claim 1, wherein the top and bottom sleeves and set of wings can
22 expand or contract to accommodate optical discs of varying sizes.

23

6. The disc player of claim 5, wherein the expansion and contraction of the sleeves and set of wings increases or decreases the overall size of the disc player.

7. The disc player of claim 1, wherein each wing of the top and bottom set of wings further include a flange adjacent either the left or right side of the disc player to protect the disc being contained within the disc player.

8. The disc player of claim 1, wherein each sleeve of the top and bottom sleeves further include a flange adjacent the front side of the disc player to protect the disc being contained within the disc player.

9. The disc player of claim 1, wherein the top and bottom covers hingably couple to provide the disc player with an open and closed position for inserting, containing and removing the disc.

10. The disc player of claim 1, wherein a portion of the top cover is translucent or transparent to allow any indicia on the disc to be visible while being contained by the disc player.

11. The disc player of claim 1, wherein the top cover further include a first wall of a first height adjacent the back side of the disc player, and a second wall of a second height adjacent a side portion of the disc player, the first height being greater than the second height.

12. A portable disc player having a casing for containing various disc sizes, the casing comprising:
- a top and bottom shell movably attached to allow the insertion and removal of the disc within a cavity of the casing;
 - a data transfer device ("DTD") attached to the bottom shell for transferring data; and
 - a mechanism for scaling the overall size of the player to accommodate disc size.
13. The casing of claim 12, further including a I/O port coupled between an exterior surface of the disc player and the DTD to transfer audio, video or computer data from the disc to a speaker, video display or a processor, via the DTD.
14. The casing of claim 12, wherein the disc may be a CD or DVD having a size selected from the group including 120mm and 80mm.
15. The casing of claim 12, wherein the top and a bottom shell further include a first wall having a first height that extends along a portion of the shell parameter.
16. The casing of claim 15, wherein the top shell further includes a second wall having a second height along a portion of the sides of the disc player.

1 17. The casing of claim 16, wherein the top and the bottom shell further includes two
2 mounting posts adjacent a back side, and the mechanism further includes:
3 a top and bottom sleeve movably coupled to an interior surface of the top and bottom
4 shell, respectively, each sleeve having two guide slots and a flange along a front side
5 of the casing;
6 a top and bottom pair of wings, each wing providing a guide pin and a flange along either
7 the left or right side of the casing,
8 wherein the shells hingibly couple together, each wing pivotally attaches to the
9 respective cover and movably couples to the respective shell by the guide slot to accommodate
10 the varying size discs being coupled to the DTD.
11
12 18. The casing of claim 17, wherein the top and bottom shell, sleeve and set of wings are
13 made from a flexible material such as plastic.
14
15 19. The casing of claim 17, wherein the difference in height between the first and the second
16 wall is similar to the thickness of the disc and the top and bottom pair of wings.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

20. A process for containing an optical disc within casing of a portable disc player or recorder having a case scaling mechanism, the process comprising:
- opening a top portion of the casing to expose a shell cavity;
 - securing the disc to a data transfer device (“DTD”) within the shell cavity; and
 - closing the top portion to contain a portion of the disc within the shell cavity.
21. The process of claim 20, further including the step of adjusting the size of the casing to accommodate the relative size of the disc before the step of closing.
22. The process of claim 21, wherein the step of adjusting further includes pulling and pushing on a sleeve of the case scaling mechanism to increase and decrease, respectively, the shell cavity and a structural size of the disc player for containing a disc.
23. The process of claim 20, further including the step of coupling the disc player to a device selected from the group including a processor, a video display and a speaker to view the computer, video and audio data of the disc, respectively.

ABSTRACT OF THE DISCLOSURE

A scalable and portable disc player or recorder for containing and transferring audio, video or computer data to and from an optical disc of various sizes. The casing of the disc player provides a case scaling mechanism having a set of pivotal wings and slidable sleeves that can be adjusted to accommodate various optical disc sizes. This same process changes the structural size of the disc player casing.

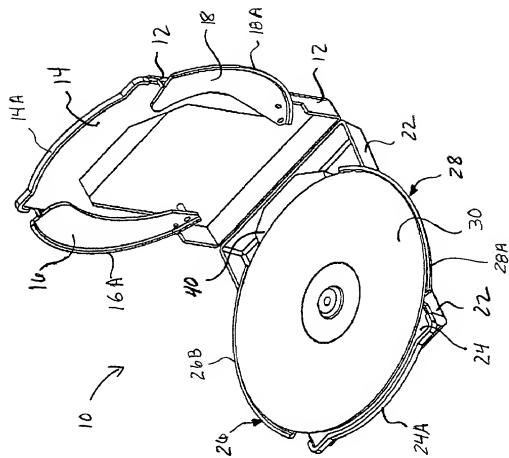


Fig. 1

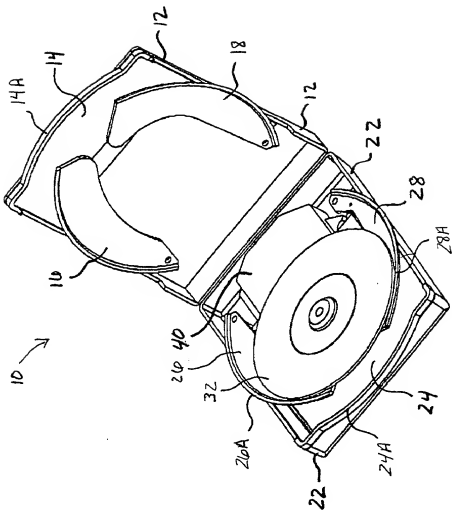


FIG. 2

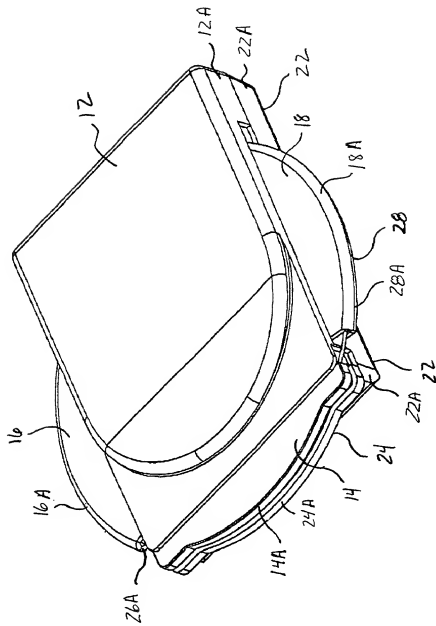


FIG. 3

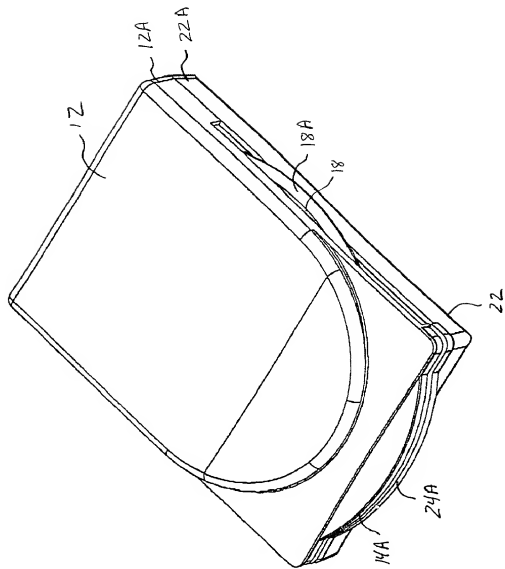


FIG. 4

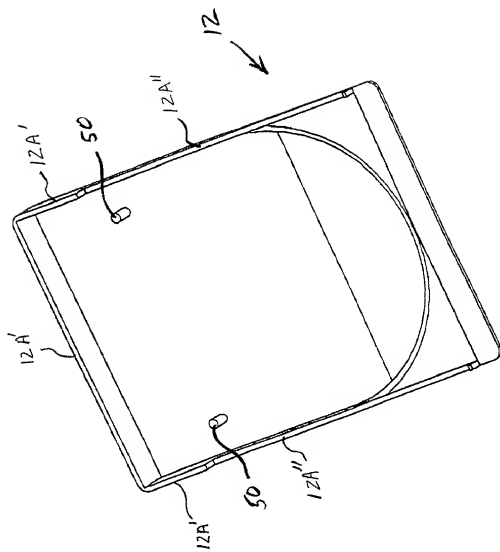


Fig. 5

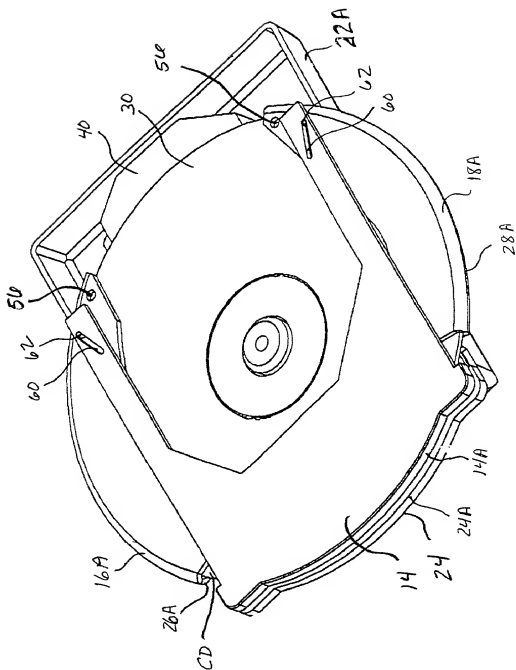


FIG. 6

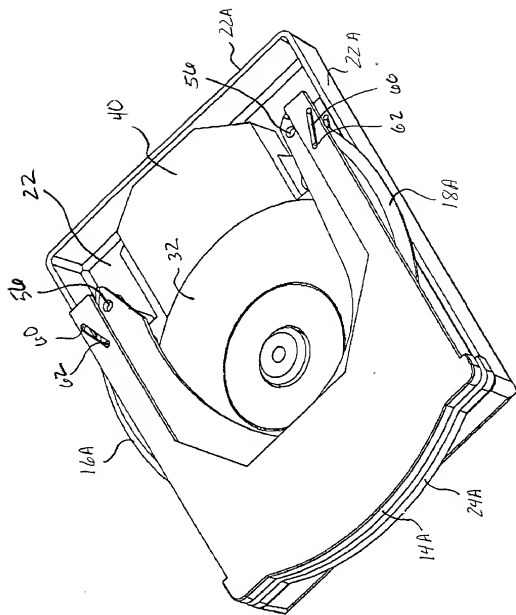


FIG. 7

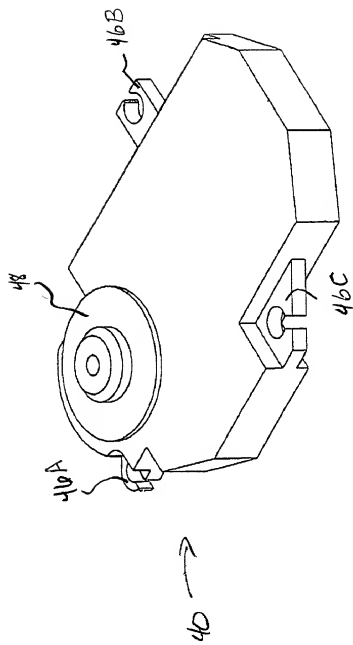


Fig. 8

DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATIONATTORNEY DOCKET NO. 10001746-1

As a below named inventor, I hereby declare that:

My residence/post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Scalable And Portable Disc Player For Various Optical Disc Sizes

the specification of which is attached hereto unless the following box is checked:

(X) was filed on Oct 27, 2000 as US Application Serial No. or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose all information which is material to patentability as defined in 37 CFR 1.56.

Foreign Application(s) and/or Claim of Foreign Priority

I hereby claim foreign priority benefits under Title 35, United States Code Section 119 of any foreign application(s) for patent or inventor(s) certificate listed below and have also identified below any foreign application for patent or inventor(s) certificate having a filing date before that of the application on which priority is claimed:

COUNTRY	APPLICATION NUMBER	DATE FILED	PRIORITY CLAIMED UNDER 35 U.S.C. 119
			YES: _____ NO: _____
			YES: _____ NO: _____

Provisional Application

I hereby claim the benefit under Title 35, United States Code Section 119(e) of any United States provisional application(s) listed below:

APPLICATION SERIAL NUMBER	FILING DATE

U. S. Priority Claim

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION SERIAL NUMBER	FILING DATE	STATUS (patented/pending/abandoned)

POWER OF ATTORNEY:

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Customer Number 022879Place Customer
Number Bar Code
Label here**Send Correspondence to:**HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, Colorado 80527-2400**Direct Telephone Calls To:**David M Mason
(408) 447-4046

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of Inventor: Charles L. Hunter Citizenship: USResidence: 1996 Kennedy Ave, Loveland, CO 80538Post Office Address: Same as residence

Inventor's Signature _____

Date _____

**DECLARATION AND POWER OF ATTORNEY
FOR PATENT APPLICATION (continued)**

ATTORNEY DOCKET NO. 10001746-1

Full Name of # 2 joint inventor: Lawrence N. Taugher Citizenship: US

Residence: 291 Newell Rd, Loveland, CO 80537

Post Office Address: Same as residence

Inventor's Signature _____ Date _____

Full Name of # 3 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____

Full Name of # 4 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____

Full Name of # 5 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____

Full Name of # 6 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____

Full Name of # 7 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____

Full Name of # 8 joint inventor: _____ Citizenship: _____

Residence: _____

Post Office Address: _____

Inventor's Signature _____ Date _____